



IBS Center for Molecular Spectroscopy and Dynamics

Seminar

■ **SPEAKER**

Prof. Hyunyong Choi (Seoul National University)

■ **TITLE**

Ultrafast light on “exciting” van der Waals materials

■ **ABSTRACT**

Abstract: In this seminar, I will talk about how the extremely fast light, called “ultrafast” laser, is used to investigate “exciting” quantum properties of van der Waals materials. The key players are “symmetry” and “topology”, and they are parameterized as the quantum degrees of freedom (DoF) in van der Waals (vdW) materials by the Berry phase. Followed by an introduction about the ultrafast spectroscopy, focus will be made on the following topics. (i) Non-excitonic valley Hall effect in a heterostructure consisted of a monolayer TMD and 2D topological insulator. (ii) Exciton quantum coherence in the symmetry-broken in TMD, manifested by the quantum beats and optical Stark effect. (iii) Finally, if time is permitted, I will introduce our THz investigations on the transient dynamics of topological insulators.

■ **DATE AND VENUE**

Feb. 23, 2022 (Wednesday, 11:00 - 12:00)
Virtual Seminar

■ **LANGUAGE**

Korean

■ **INVITED BY**

Research Fellow Kwangjin Lee